

**Abstract**

A network node for use in a WDM communications network, the network node comprising a first network interface unit arranged, in use, to demultiplex an incoming WDM optical signal and to convert the incoming WDM optical signal into a plurality of electrical channel signals, a regeneration unit for regenerating the electrical channel signals utilising at least 2R regeneration, a second network interface unit arranged, in use, to convert and multiplex at least one of the electrical channel signals into an outgoing WDM optical signal, and a secondary interface unit arranged, in use, to convert at least one of the electrical channel signals into an optical signal and to drop the optical signal at the network node.